

Conclusion

The behavior of male *Dynatus nigripes spinolae* is much like the behavior of some *Trypoxylon* (Rau, 1928) and *Oxybelus* (Bohart and Marsh, 1960) males where the male remains at the nest while the female is out foraging. The male remains at the nest for as long as it takes for the female to complete it, except for occasional feeding excursions. The result is that the male mates repeatedly with a single female until the nest is completed, usually three to four days. If that female builds another nest nearby the male will stay with her. If she leaves to build a nest elsewhere the male will remain at the old nest for a few hours and then leave to look for another female.

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Literature Cited

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SCIENTIFIC NOTE

Observations on *Monarthrum dentiger* (Coleoptera: Scolytidae) and Its Primary Symbiotic Fungus, *Ambrosiella brunnea* (Fungi imperfecti), in California. The ambrosia beetle *Monarthrum dentiger* (LeConte) was collected in California during a study of the ectosymbiotic interrelationships of Western ambrosia beetles and their symbiotic fungi. This report records the association of the symbiotic fungus *Ambrosiella brunnea* (Verrall) Batra with *M. dentiger* for the first time. This fungus had previously been associated with *M. mali* (Fitch) and *M. fasciatum* (Say) in the Eastern United States (Batra, 1967. Mycologia, 59: 976-1017) and *M. scutellare* (LeConte) in British Columbia (Funk, 1965. Can. J. Bot., 43: 929-932). Doane and Guilliland (1929, J. Econ. Entomol., 22:915-921) probably observed this fungus in their study of the biology of *M. dentiger*.

Isolations of *A. brunnea* from tunnels, larval niches, and the forecoxal mycangia of the female beetles, were made on 0.6% malt extract agar and 3% malt extract — 1% yeast extract agar using techniques of Batra (1963, Kan. Acad. Sci., 66:213-236). Microscopic observations of dissected beetle and thin sections of wood from tunnels and larval niches were mounted in 1% KOH or 0.5% trypan blue stain.

Upon dissection of adult male (15) and female (20) beetles, fungal cells were found only in a forecoxal enlargement of the female beetle. This forecoxal mycangia of *M. dentiger* appeared similar in structure to those previously described by Batra (1963, Ibid.) for *M.*

mali and *M. fasciatum* and by Farris (1965, Proc. Entomol. Soc. B.C., 62:30-33) for *M. scutellare*.

In November of 1970, live specimens of *M. dentiger* were removed from a *Quercus agrifolia* Nee collected in the Castle Rock State Park, Santa Clara County. The host tree was leafless and appeared to have recently died. The gallery systems contained numerous adult beetles which appeared inactive in their brood niches. Upon microscopic study, these tunnels and niches appeared to lack active fungal growth and did not yield *A. brunnea* when isolations were attempted. Within dissected mycangia only a few thick wall fungal cells were observed. Only a single successful isolation of *A. brunnea* was obtained from dissected mycangia of eight female adult beetles. In July of 1971 beetles were recollected from dead *Q. agrifolia* and *Q. lobata* Nee at the Castle Rock site and from *Q. agrifolia* near Camp Saratoga, Santa Clara County. These galleries contained active monogamous pairs of adult beetles; eggs in small cradles in lateral walls of the tunnels; and larvae, pupae, and teneral adults developing within larval niches. The parental pair of beetles were continuing to lengthen the tunnels system in the host. A thin palisade of fungal growth lined the tunnels and larval niches. Larvae were actively feeding on this fungal layer. Seven isolations from larval niches all yielded cultures of *A. brunnea*. The fungus taken from the mycangia appeared to be rapidly budding. All eight isolations attempts yielded cultures of *A. brunnea*. Other observations of the biology of *M. dentiger* were similar to those made by Doane and Guilliland (Ibid.). The larger oak ambrosia beetle *M. scutellare* was also collected from these same host trees and also yielded *A. brunnea* from their tunnels and mycangia. — RICHARD A. ROEPER and JOHN R. J. FRENCH, Departments of Botany and Entomology, Oregon State University, Corvallis, 97331.

SCIENTIFIC NOTE

Cicada (*Diceroprocta apache* (Davis)) mortality by feeding on *Nerium oleander*. In mid-July 1977, there was a strong emergence of cicadas, *Diceroprocta apache*, in the vicinity of Tacna, Yuma County, southwestern Arizona. In this desert habitat the adult cicadas were feeding on the sap of many species of desert shrubs, including *Prosopis juliflora*, *Cercidium floridum*, *Cercidium microphyllum*, and *Acacia gregii*. It was commonplace to flush two to fifteen adult cicadas from a shrub of one of these species. In the grounds of a motel and several private gardens in Tacna, *Nerium oleander* had been planted as an ornamental tree. Cicadas were often observed feeding on the twigs of these trees. The plants ranged from 2 to 3 m in height and were of approximately the same size as native desert shrubs. Oleander is native to old world arid areas such as the Mediterranean. It is in the family Apocynaceae and it is widely reputed to be poisonous to livestock when fed upon. If the foliage is broken, it produces a bitter white latex. Characteristically, oleander bushes are very free from herbivore damage, no matter where they are planted. Under 10 separate oleander bushes in central Tacna, I counted 28, 12, 15, 17, 3, 22, 9, 7, 16, and 23 dead cicadas. Under one bush, I know that at least 6 died during the night as they fell on top of my car which had been parked underneath the bush. Both sexes were among the corpses. No dead cicadas were encountered under a total of 17 shrubs of other species, all of which had cicadas feeding on them in central Tacna. The dead cicadas were in various stages of decomposition, which suggests that they had died over a period of several days.

I interpret these observations to mean that oleander is a novel food plant in the habitat of these cicadas, a food plant with which they have not evolved the ability to avoid. In other words, there may well be plants which adult *D. apache* do not feed on in south-